UPPER YELLOWSTONE WATERSHED BASIN

MILL CREEK SUBCOMMITTEE

September 25, 2008 - 1:00PM

St. John's Church, Emigrant

-MINUTES-

People Present (22+)

Alan Redfield, Chairman
Elaine Hale, Vice Chair
Keith Neal
Joan Watts
Kerry Fee, Joe Brook T.U.
Dave Poncin
Riley Shimmin
Dave Bowman
Laura Melin
Caroline Klarr
Lewis Wilks
Jacquie Nelson, Coordinator
Art Burns
Eleanor Bossert
Sharon Sweeney Fee, Joe Brook T.U.
Jim Melin
Jerry Petrich
Rankin Holmes, MT Water Trust
Melissa Klarr
Gayleen Malone
David Rigler
Jim Robinson, DNRC

Topics Covered:

1. MINUTES
2. UYWB MEETING RESULTS
3. USBR DROUGHT RELIEF PROPOSAL
4. MILL CREEK MONITORING RESULTS
5. MONTANA TROUT UNLIMITED
6. NORTHSIDE DITCH ENGINEERING
7. HEADGATE RECLAMATION
8. NEXT MEETING DATE
9. OPEN ITEMS

Alan Redfield called the Mill Creek Subcommittee meeting to order at 1:05 PM.

1. MINUTES

- Sharon Sweeney Fee made the motion to approve the Mill Creek Subcommittee minutes from the August 14, 2008 meeting as proposed; Lewis Wilks seconded and the motion passed.

2. UYWB MEETING RESULTS

- Alan Redfield gave a short summary of the decisions that were made at the last Upper Yellowstone Watershed Basin meeting on September 4, 2008 in regards to Mill Creek.
    - Jim Robinson with DNRC presented the idea of including the following in a drought mitigation proposal to the United States Bureau of Reclamation (USBR) for Mill Creek:
        - Snotel (Snowpack Telemetry) – Installing automated Snotel station.
        - AgriMet (Agriculture and Meteorology) – Installing automated, near real-time meteorological station.
        - Telemetered Stream Gauges - Installing two telemetered gauges.
        - Pipeline - Installing a pipeline on the Northside ditch.
    - The UYWB did not agree to move forward with the pipeline project in the application until the Mill Creek Subcommittee and the Northside ditch water users looked over the proposal further. The motion passed to include only the Snotel, AgriMet and Telemetered Stream Gauges in the formation of a USBR application.

3. USBR DROUGHT RELIEF PROPOSAL

- Jim Robinson presented the Mill Creek Subcommittee with a draft Mill Creek Reclamation States Emergency Drought Act Grant application through the United States Bureau of Reclamation (USBR).
- Through the application Park CD would be requesting $72,600 for establishment and maintence of drought monitoring and management information system for the Mill Creek watershed. This Mill Creek Drought Management Project would include the following:
    - (2) USGS-operated streamflow gauges. [$24,000]
      Installation and maintenance of (2) automated, real-time streamflow monitoring stations by the U.S. Geological Survey for a five-year period.
    - (1) NRCS-operated SNOTEL (SNOwpack TELemetry) station. [$30,000]
      Installation and maintence of (1) automated, near real-time snowpack monitoring station by the Natural Resources Soil Conservation Service for a five-year period.
    - (1) USBR-operated AgriMet (AGRIculture and METeorology) station. [$12,000]
      Installation and maintenance of (1) automated, near real-time meteorological station by the U.S. Bureau of Reclamation for a five-year period.
    - Park Conservation District. [$6,600]
      10% Administration Fee.
- Some of the Mill Creek Subcommittee expressed that they would like to see more than two automated stream gauges installed on Mill Creek if they were to consider the grant application because you can't judge where the inefficiencies are with only one gauge at the top and one at the bottom of the six-mile reach downstream of the canyon.
- Alan Redfield would like to see the $24,000 allocated towards the USGS streamflow gauges either, split up and used to help fund the other two proposed projects or used to fund someone to monitor the existing manual stream gauges in Mill Creek.
- The group talked about collecting data from the AM400 soil moisture data loggers. This would be in addition to the AgriMet station. Some of the Mill Creek Subcommittee members think that data should come from multiple sites in the Mill Creek watershed.
- The Mill Creek Subcommittee decided to proceed with applying for funding though the USBR grant program to fund only the NRCS-operated SNOTEL station up the Mill Creek watershed. Therefore, Jim Robinson will adjust the application and funding request accordingly and send it to Alan for further recommendations. After the draft SNOTEL proposal is written, Alan will present it at the next UYWB meeting and look for approval to proceed to the Park Conservation District. (Attachment A)

4. MILL CREEK MONITORING RESULTS

- Dave Amman, Water Measurement with DNRC was unable to attend the Mill Creek Subcommittee meeting, therefore Jim Robinson filled in for him.
- Jim Robinson discussed the ongoing flow monitoring consisting of 10 water measurement stations at strategic points along the lower six miles of Mill Creek, flow measurements results as of September 16th are listed below:
    - No. 1 – Mill Creek East River Road: 7.8 cfs
    - No. 2 – Allen Sexton Ditch: 0 cfs
    - No. 3 – Mill Creek 1st Bridge, Mill Creek Road: 13 cfs
    - No. 4 – Mill Creek, above Carters: 21.4 cfs
    - No. 5 – Carters Ditch: 0.1 cfs
    - No. 6 – Mill Creek, 2nd Bridge, USGS Gauge: 14.2 cfs
    - No. 7 – Upland Ditch: 0.1 cfs
    - No. 8 – Mill Creek, above Pipeline Intake: 69.2 cfs
    - No. 9 – Northside Ditch: 21.3 cfs
    - No. 10 – Pipeline: 42.6 cfs
- For station location maps see:
  http:dnrc.mt.gov/wrd/water_mgmt/planning_activities/mill_creek/.

- As of September 16, 2008 there has been a gain of water flow at the top/middle of Mill Creek from No. 6 to No. 3. And Mill Creek is a loosing stream from the middle around No. 3 to the Yellowstone River.
- At the next Mill Creek Subcommittee Dave Amman will present the end-of-season flow monitoring results on Mill Creek.

5. MONTANA TROUT UNLIMITED

- Kerry Fee and Sharon Sweeney Fee on behalf of the local Joe Brooks chapter of Montana Trout Unlimited had no updates.

6. NORTHSIDE DITCH ENGINEERING

- One of the ideas floating around at the last Mill Creek Subcommittee meeting was to install a pipeline on the Northside ditch of Mill Creek. The idea was thrown out at the UYWB meeting on September 4, 2008 until the Mill Creek Subcommittee and the Northside ditch water users looked over the proposal further.
- At the last meeting, the Mill Creek Subcommittee talked about renewable resource grants to help fund an engineer to analyze the Northside ditch as a possible pipeline candidate. However, these funds are not available until July 1st, 2009. Therefore, the Mill Creek Subcommittee has some time to think about and discuss the idea.

7. HEADGATE RECLAMATION

- The headgate reclamation funding would also fall under the renewable resource grant. The Mill Creek Subcommittee would be looking for engineering assistance and estimates to replace the Mill Flat ditch.
- The funds through the renewable resource grant are not available until July 1st, 2009. Therefore, the Mill Creek Subcommittee has some time to develop an application.

8. NEXT MEETING DATE

- The next meeting is scheduled for October 13, 2008, 1-3 pm at St. John's Church in Emigrant.

9. OPEN ITEMS

- No open items were discussed.

Alan Redfield adjourned the Mill Creek Subcommittee meeting at 2:30 PM.

Attachment A.

DRAFT – Mill Creek Reclamation States Emergency Drought Act Grant Application

September 29, 2008

Mr. Jesse Aber, State Drought Coordinator
Montana DNRC
Water Resources Division
PO Box 201601
Helena, MT 59601

Dear Jesse,

Please forward the following proposal on behalf of the Park Conservation District (fiscal agent for the Upper Yellowstone Watershed Group) to the U.S. Bureau of Reclamation for funding under the Reclamation States Emergency Drought Relief Act.

Project Title: Mill Creek SNOTEL Replacement Project

Applicant: Park Conservation District (Park CD) on behalf of the Upper Yellowstone Watershed Group

Project Goal **Enable the mill Creek Water users to make timely Crop and Livestock Management decisions while making the best use of limited water supplies for Mill Creek**

Funding Request:
Park CD is requesting **$35,750** for installation and maintence of an NRCS-operated SNOTEL (SNOwpack TELemetry) station in the Mill Creek headwaters. The proposed SNOTEL site would replace two existing (Mill Creek and Colley Creek) non-automated, manually read snow course stations with a single (1) automated, near real-time snowpack monitoring station by the Natural Resources Soil Conservation Service for a five-year period. The station would be located in the upper portion of the Mill Creek watershed, at a pre-determined location, most likely an existing snow course location. Under a contract with NRCS, the proposed station will provide Internet-accessible, real-time snowpack and related climatic data for water supply forecasting and drought management.

Description of Water Supply:
Mill Creek, a 22-mile tributary to the upper Yellowstone River, is located in Park County about 20 miles south of Livingston, Montana, and 30 miles north of Yellowstone National Park. Draining an area of about 150 square miles, it flows from the Absaroka Mountain Range, through a steep canyon, then a broad high bench along the east side of Paradise Valley before discharging into the Yellowstone River (see Project Location Map).

The major irrigation diversions occur about six miles above the confluence with the Yellowstone River, where the stream exits the canyon. Mill Creek supplies water to multiple irrigation diversions including Northside, Upland, Carter, Melin-Allen (Allen-Sexton), and the Mill Creek Pipeline, which serves the Mill Creek Water District. Water from the stream is allocated

according to priority date, and in most years only the most senior rights are satisfied during August.

Description of Problem:
Mill Creek is a ranching community; irrigation is an important part of producing feed for livestock. During the irrigation season, water from Mill Creek is used to irrigate about 4,000 acres of land used for pasturing livestock and production of alfalfa, grass hay, and some barley. Mill Creek also provides critical spawning habitat for Yellowstone cutthroat trout, Montana's state fish, a species of special concern, and a candidate for listing under the Endangered Species Act. Chronic water shortages prevent full agricultural productivity on lands potentially watered by Mill Creek, and limit availability of aquatic habitat deemed critical by DFWP for maintaining the cutthroat population in the upper Yellowstone River.

Mill Creek's natural tendency to de-water, combined with irrigation demand and the recent extended drought, has significantly reduced surface connectivity between it and the Yellowstone River during late summer, when water is needed for both irrigation and fry conveyance. The 2008 water year was exceptional; irrigation and instream flow demands were met for the first time in nearly a decade. Climatological projections indicate that drought periods on the order of 5-10 years are anticipated. For the 8 years prior to 2008, late summer flows in Mill Creek have reduced to zero in the spawning reach near the East River Road Bridge due to high temperatures and below average mountain snowpack. DFWP estimates that a minimum flow of 13 cfs (cubic feet per second) at the East Road Bridge is necessary during late summer and early fall for cutthroat spawning purposes.

Proposed Plan to Solve the Problem:
Recently, Mill Creek residents and water users have initiated a collaborative process to address conflict associated with the extended drought. The Upper Yellowstone Watershed Basin group has appointed a subcommittee (Mill Creek Subcommittee) to work with technical specialists and local residents to devise and implement a water measurement program aimed at identifying ways to better manage water and mitigate chronic dewatering. MT DNRC, in cooperation with UYWB, MT DFWP, and Joe Brooks TU, has agreed to provide the planning and technical services necessary to carry out such a program over the next several irrigation seasons. Work includes DNRC installation and operation of a flow monitoring network consisting of water level recorders and rated staff gages at strategic points along the lower six miles of creek (see Project Location Map).

Any long-term solution to the Mill Creek drought problem will require accurate, timely information regarding available stream flow and water supply. Integral to long-term, multi-use management of the Mill Creek water supply is an automated real-time system for snow pack and stream flow monitoring that provides water users and the public with immediate access to usable information. Currently, DNRC hydrologists maintain a system of staff gauges and water level recorders along the lower reaches of the creek and at the major irrigation diversions. An automated SNOTEL site would allow correlation with the DNRC flow monitoring data, and provide early season snow pack information for on-farm drought planning and management.

Funds Requested:
Park CD is requesting **$35,750** to install and operate for five seasons (2009 - 2013) a new NRCS SNOTEL site in the upper Mill Creek watershed. Table 1 shows costs associated with the Mill

Creek SNOTEL replacement project. Also included are Park CD contract administration costs and DNRC Water Measurement Program costs as match. Other contributions not shown in the project budget are planning and technical services provided by DNRC's Water Management Bureau. Park CD has received funding from Trout Unlimited for coordination and communication services. DFWP, Fisheries supports the effort through provision of biological data and regular meeting attendance.

Table 1 – Mill Creek SNOTEL Budget

Instrument	USBR Drought Relief Act		DNRC Water Measure Program Match	
	Installation (2009)	Operation (2009-2013)	Installation (2008)	Operation (2008-2012)
NRCS SNOTEL	$25,000	$7,500	$0	$0
Flow Monitoring	$0	$0	$3,000	$15,000
Subtotal	$25,000	$7,500	$3,000	$15,000
Park CD Admin	$2,500	$750	$0	$0
Program Totals	**$35,750**		**$18,000**	

Letters of support:

- NRCS (Dave White);
- DFWP (Scott Opitz);
- Trout Unlimited (Kerry Fee);
- Park CD (Chair);
- UYWB (Chair);
- Mill Creek Water District (Chair)